IN THE CLAIMS

Please amend claims 11, 15, 17 and 23 as follows:

Claims 1-10 (Cancelled)

11. (Currently Amended) A method of transmitting a spread spectrum signal, the method comprising:

multiplying a lower bit rate signal and a first PN-code sequence to yield a lower bit rate product; and

using a ~~first~~ second PN-code sequence to spread one of ~~a~~ the lower bit rate product or a higher bit rate signal to a predetermined output chip rate for the spread spectrum signal~~; and~~

~~multiplying a lower bit rate signal and a second PN-code sequence to yield the lower bit rate product~~, wherein the lower bit rate product has a chip rate equal to a bit rate of the higher bit rate signal.

12.(Previously Presented) A method of recovering a spread spectrum signal having one of a higher bit rate signal spread by a first PN-code sequence or a lower bit rate signal spread by the first PN-code sequence and a second PN-code sequence, a lower bit rate product of the lower bit rate signal and the second PN-code sequence having a chip rate equaling a bit rate of the higher bit rate single, the method comprising:

receiving and demodulation the spread spectrum signal;

successively correlating in a first operation the demodulated signal with the first PN-code sequence and then in a second operation with the second PN-code sequence; and

determining if the higher bit rate signal is present in the spread spectrum signal by checking a presence of a first strong correlation peak in an output of the first operation and an absence of a correlation peak in an output of the second operation;

determining if the lower bit rate signal is present in the spread spectrum signal by checking a presence of at least a weak correlation peak in the output of the first operation and a presence of a second strong correlation peak in the output of the second operation.

13. (Previously Presented) The method of claim 12, wherein the first operation and the second operation are carried in respective matched filters.

14. (Previously Presented) The method of claim 13, wherein a running average of an output of the each matched filter is obtained in order to synchronize detection of one ore more correlation peaks in the output of the respective filter.

15. (Currently Amended) The method of claim 14, wherein the running average is determined in accordance with the equation:

$$\hat{x}_i^n = \alpha * \hat{x}_i^{n-1} + (1-\alpha) * x_i^n$$

where x_i^n is the absolute value of the i th matched filter output sample in an n th databit period,

$\hat{x}_i^{n-1}$ is the corresponding i th sample running average at an end of an n-1 th databit period, and

α is ~~and~~ an averaging gain and has a value $0 \leq \alpha \leq 1$.

16. (Previously Presented) The method of claim 15, wherein the averaging gain α has a value > 0.5.

17. (Currently Amended) A spread spectrum communication system, comprising:

a transmitter for transmitting a spread spectrum signal, the transmitter including

a source of a higher bit rate signal having a higher bit rate,

a source of a lower bit rate signal having a lower bit rate,

means for multiplying the higher bit rate signal by a first PN-code sequence to give the spread spectrum signal a predetermined output chip rate, and

means for multiplying the lower bit rate signal by the first PN-code sequence and a second PN-code sequence to give the spread spectrum signal ~~a~~ the predetermined output chip rate, wherein a lower bit rate product of the lower bit rate signal and the second PN-code sequence has a chip rate equal to the higher bit rate of the higher bit rate signal; and

a receiver including

means for receiving and demodulation the spread spectrum signal,

first correlation means for correlating the demodulated signal with the first PN-code sequence,

second correlation means for correlating an output from the first correlation means with the second PN-code sequence,

means for determining a presence of the higher bit rate signal in the spread spectrum signal by checking for a first strong correlation peak in the output of said first correlation means and an absence of a correlation peak in an output of the second correlation means, and

means for determining the presence of the lower bit rate signal in the spread spectrum signal by checking for at least a weak correlation peak in the output of the first correlation means and a second strong correlation peak in the output of said second correlation means.

18.(Previously Presented) The spread spectrum communication system of claim 17, wherein the first operation and the second operation are carried in respective matched filters.

19.(Previously Presented) spread spectrum communication system of claim 18, wherein the receiver further includes:

means for obtaining a running average of an output of each filter; and

means for determining synchronizing peaks in the respective running averages.

20.(Previously Presented) A spread spectrum receiver for recovering a spread spectrum signal having one of a higher bit rate signal spread by a first PN-code sequence or a lower bit rate signal spread by the first PN-code sequence and a second PN-code sequence, a lower bit rate product of the lower bit rate signal and the second PN-sequence having a chip rate equaling a bit rate of the higher bit rate signal, the receiver comprising:

means for receiving and demodulation the spread spectrum signal;

first correlation means for correlating the demodulated signal with the first PN-code sequence;

second correlation means for correlating an output from the first correlation means with the second PN-code sequence;

means for determining a presence of the higher bit rate signal in the spread spectrum signal by checking for a first strong correlation peak in the output of said first correlation means and an absence of a correlation peak in an output of the second correlation means, and

means for determining the presence of the lower bit rate signal in the spread spectrum signal by checking for at least a weak correlation peak in the output of the first correlation means and a second strong correlation peak in the output of said second correlation means.

21. (Previously Presented) The receiver of claim 20, wherein the first operation and the second operation are carried in respective matched filters.

22.(Previously Presented) The receiver of claim 20, further includes:

means for obtaining a running average of an output of each filter; and

means for determining synchronizing peaks in the respective running averages.

23.(Currently Amended) A spread spectrum transmitter for transmitting a spread spectrum signal, the transmitter comprising:

a source of a ~~higher~~ first bit rate signal having a ~~higher~~ first bit rate;

a source of a ~~lower~~ second bit rate signal having a ~~lower~~ second bit rate;

means for multiplying the ~~higher~~ first bit rate signal by a first PN-code sequence to give the spread spectrum signal a predetermined output chip rate; and

means for multiplying the ~~lower~~ second bit rate signal by the first PN-code sequence and by a second PN-code sequence to give the spread spectrum signal the predetermined output chip rate, wherein a ~~lower~~ second bit rate product of the ~~lower~~ second bit rate signal

and the second PN-code sequence ~~has~~ have a chip rate equal to the ~~higher~~ first bit rate of the ~~higher~~ first bit rate signal.